

Abstract

Voltage regulators are exposed to extreme amounts of voltage over short periods of time during an electrostatic discharge (ESD) event. Shunt regulators require protection from ESD events. Capacitors are passive devices that allow current flow when not in a steady-state condition. An apparatus and method compensates for the extreme voltages inherent in ESD events. By providing capacitance across the gate-drain junction of the shunt device in combination with a gate resistor, a voltage can be applied to the gate of the active device upon commencement of an ESD event, and cause the active device to "turn on." The "turned on" active device provides a pathway for the excess voltage from the ESD event to follow and discharge so as to avoid catastrophic failures.

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